CONTEMPORARY PHYSICS

A Review of Physics and Associated Technologies

Chief Scientific Adviser: Professor Sir Nevill Mott, F.R.S.

Editor: G. R. Noakes

Editorial Board:

Consultant Editors: Dr. H. B. G. Casimir, For.Mem. R.S.
Professor B. R. Coles
Professor P.-O. Löwdin
Professor Sir Harrie Massey, F.R.S.

Advisory Editors: Professor L. F. Bates, C.B.E., F.R.S.
Professor O. R. Frisch, O.B.E., F.R.S.
Dr. J. A. Lee
Dr. K. A. G. Mendelssohn, F.R.S.
Professor Sir Rudolf Peierls, C.B.E., F.R.S
Professor G. W. Series, F.R.S.

VOLUME 17

JANUARY to NOVEMBER 1976

Printed and Published by

TAYLOR & FRANCIS LTD

10-14 MACKLIN STREET, LONDON, WC2B 5NF

CONTENTS OF Vol. 17. (Nos. 1–6)

NUMBER 1—JANUARY 1976

Sir George Thomson. O. R. Frisch and P. B. Moon

SI Units in Medical Physics. W. V. Mayneord 1

Applications of Ultrasonics. Margaret F. Cracknell and Arthur P. Cracknell 13

Diamonds. T. Evans 45

Crystal Structures with Off-Centre Atoms. N. W. Grimes 71

Operational Research: Perspective and Prologue. B. H. P. Rivett ... 95

Essay Review: The Development of X-ray Analysis. M. F. Perutz ... 103

Book Reviews 105

Books Received 108

NUMBER 2—MARCH 1976

The Stretching and Superheating of Liquids. D. H. Trevena 109

Infrared to Visible Light Converters. G. F. J. Garlick 127

Pocket Electronic Calculators in Scientific Work. P. J. Killingbeck .. 145

Oil from the North Sea. Sir Peter Kent 169

Amorphous Solids. D. Weaire 173

The Bases of Authority for our Symbols and Units. L. F. Bates 193

Biographical Memoirs of Fellows of the Royal Society. Norman Feather 197

Essay Review: Magnetic Bubbles. R. D. Enoch 199

Books Received 203

Book Reviews 205

Publishers' Announcements .. .. (i)

NUMBER 3—MAY 1976

Image Intensifiers. C. I. Coleman and A. Boksenberg 209

Crossed Beam Experiments. K. Dolder 237

Instantaneous Velocity and Temperature Measurements in Oscillating Diffusion Flames (Laser Anemometry). D. F. G. Durão and J. H. Whitelaw 249

Optically Detected Magnetic Resonance. J. J. Davies 275

Essay Review: Quantum Gravity. A. H. Cook 295

Essay Review: Peaceful Nuclear Explosions. K. PARKER 297

Book Reviews 301

Books Received 306

Publishers' Announcements .. .. (v)

NUMBER 4—JULY 1976

Physics in the Prevention and Detection of Crime. DENNIS F. SHAW .. 307

Organic Metals. A. J. BERLINSKY 331

Superconductivity in Technology. P. KOMAREK 355

Internal Hyperfine Fields in Magnetic Solids. P. S. ALLEN 387

Essay Review: Nuclear Tracks in Solids. J. G. WILSON 403

Book Reviews 405

Books Received 410

NUMBER 5—SEPTEMBER 1976

The Scattering of Thermal Neutrons by Crystals. G. L. SQUIRES 411

Resonances in Optical Excitation Functions. D. W. O. HEDDLE 443

Thermally Stimulated Effects in Dielectrics and their Application to Radiation Dosimetry. C. BOWLT 461

EISCAT: A New Project for Studying the High Latitude Ionosphere. H. RISHBETH 483

Essay Review: Nuclear Energy and the Environment. W. BRUNSDON YAPP 491

Book Reviews 495

Books Received 506

NUMBER 6—NOVEMBER 1976

Refrigeration with Expansion Turbines. M. E. CLARKE and J. B. GARDNER 507

Some Recent Developments in Gas Lasers. O. S. HEAVENS 529

Proton Spin Imaging by Nuclear Magnetic Resonance. P. MANSFIELD .. 553

Measurement of Distances to the Moon and Artificial Satellites. A. H. COOK 577

Book Reviews 599

Books Received 610

Author Index, Volume 17 611

Subject Index, Volume 17 613

Contents of Volume 17, 1976